

# THOMAS WALTER TYPIFICATION PROJECT, VI: NEOTYPES FOR AN ADDITIONAL 18 WALTER NAMES

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## ABSTRACT

*Flora Caroliniana* was published by Thomas Walter in 1788. Because of the early date of this flora, many of its species were new to science, and the names given them by Walter remain of importance in the American Southeast. Although Walter kept no herbarium, recent efforts have chosen later collections as replacement types. Here, a remaining number of these species are addressed, with selection of appropriate neotypes to represent an additional 18 Thomas Walter names.

## RESUMEN

*Flora Caroliniana* fue publicada por Thomas Walter en 1788. Debido a la fecha antigua de esta flora, muchas de estas especies fueron nuevas a la ciencia, y los nombres dados por Walter siguen teniendo importancia en el Sureste de América. Aunque Walter no dejó un herbario, esfuerzos recientes han escogido colecciones más nuevas como tipos de reemplazo. Aquí se tratan las restantes de estas especies con una selección de neotipos apropiados para representar 18 nombres adicionales de Thomas Walter.

In the 1780s, Thomas Walter (1740–1789) owned and operated a rice plantation on the Santee River, Berkeley County, South Carolina. His interest in the plants of the area led him to compile a simple flora in which he gave them descriptions and Latin names. This book, *Flora Caroliniana* (1788), is the first treatment of American plants employing the binomial nomenclature and sexual classification system of Linnaeus. Of even greater importance, the early date of this publication has given many of his names priority over those of later authors.

This paper largely completes typification of the plant names published by Walter in his pioneer *Flora*. By the selection of type specimens to represent these names, they become fixed in their meaning, bringing stability to the nomenclature of this portion of the Southeastern flora.

Walter kept no herbarium (Ward 2007a). In the absence of authentic original materials, the International Code of Botanical Nomenclature (McNeill et al. 2006) permits selection of another specimen—a neotype—to represent the missing type.

The Thomas Walter Typification Project (Ward 2006a, 2007b, 2007c, 2007d, 2008) and ancillary studies (Ward 2006b, 2007e, 2007f, 2007g) have addressed the typification of many of the names assigned to American plants by Walter. These studies also treat aspects of the relationship between Walter and the Scottish horticulturist John Fraser. Fraser's herbarium (the Fraser/Walter herbarium, BM), gathered in the Carolinas and Georgia in 1787, was briefly seen by Walter, but is largely irrelevant to typification of Walter's names. Selection of collections made by other persons is the only pathway to stability of the great majority of Walter's names.

In previous numbers of the Project (2007d, 2008), the Harvard University Herbaria (GH) were the source of selected specimens. Here, for those species not adequately represented in the holdings of that institution, the herbaria of the University of South Carolina (USCH) and Duke University (DUKE) have provided specimens of quality appropriate for selection as neotypes.

With inclusion of the species treated here, essentially all of Walter's names that are in common use have now been assigned types, as have an appreciable number of Walter's names usually referred to synonymy. Still other of his names that have been treated as synonyms, or are unidentified as to their modern meaning, remain unaddressed. A subsequent number of the Project, now in preparation, will provide an index to typification or other disposition of all Thomas Walter names.

An additional 18 of Walter's species are here assigned neotypes. Specimen citations, if not otherwise attributed, are to the Fraser/Walter herbarium (BM) as described elsewhere (Ward 2006a). The typifications are presented in the format employed previously, in alphabetical sequence, using the names given them by Thomas Walter.

#### TYPIFICATIONS

WALTER'S NAME: *Amsonia Tabernaemontana* Walter (p. 98)

MODERN NAME: **Amsonia tabernaemontana** Walt.

Typical *Amsonia tabernaemontana*, with ovate leaves, is rare in eastern SC, frequent westward. The narrow-leaved var. *salicifolia* (Pursh) Woodson is frequent on the SC coastal plain. Walter described his plant with leaves "ovatis." Spm. 5-C, labeled "*Amsonia Tabernaemontana*" by Fraser, has the broader leaves of the typical variety; there is no evidence it was seen by Walter. Though the ovate-leaved form may not have been the variation most familiar to Walter, to preserve accepted usage (Woodson 1928: 406) a wide-leaved specimen, *Smith 1114*, 3 June 1941 - USCH, from Witherspoon Island, Darlington County, South Carolina, is here selected as NEOTYPE for *Amsonia tabernaemontana* Walt. It has been suggested that Walter's name must have been taken from *Tabernaemontana amsonia* L. (1762) and that Walter's type must therefore be the same as Linnaeus (J.S. Pringle, pers. comm., Dec 2005). In such case, Walter's name would be superfluous and thus illegitimate. Selection of a Walter neotype leaves the suggestion in the realm of conjecture.

WALTER'S NAME: *Anemone caroliniana* Walter (p. 157)

MODERN NAME: **Anemone caroliniana** Walt.

Very rare in SC (3 counties, all inland), rare also in central GA. This distant range indicates the species was probably brought to Walter by John Fraser. There is no specimen in the Fraser/Walter herbarium (BM). *Pyron 2109*, 19 Mar 1938 - DUKE (annot. Carl S. Keener 1980), from 3 mi. SW of Irwinville, Irwin County, Georgia, is here selected as NEOTYPE for *Anemone caroliniana* Walt.

WALTER'S NAME: *Arethusa spicata* Walter (p. 222)

MODERN NAME: **Hexalectris spicata** (Walt.) Barnhart

Infrequent throughout. Blake (1915: 136) has stated Walter's diagnosis is "quite distinctive" of this species. There is no specimen. *Evelt s.n.*, 9 July 2000 - USCH (annot. John Nelson 2000), from Rucker Road, Chapin, Richland County, South Carolina, is here selected as NEOTYPE for *Arethusa spicata* Walt., basionym of *Hexalectris spicata* (Walt.) Barnhart.

WALTER'S NAME: *Athanasia paniculata* Walter (p. 201)

MODERN NAME: **Verbesina walteri** Shinnery [= *Ridan paniculata* (Walt.) Small]

*Verbesina walteri* is rare in SC, known only from three counties. Walter's epithet is not transferrable to *Verbesina* (not *V. paniculata* Poir., 1808). Shinnery (1964) formed a new name, basing it upon Walter's name and description. No specimen has been identified in the Fraser/Walter herbarium (BM). The species is infrequent through much of its range, west to Texas. Available material, though from far beyond the reach of either Walter or Fraser, is believed representative of plants Walter might have known. *Thieret 24848*, 27 Sep 1966 - DUKE (annot. James R. Coleman 1969), from 8 mi. SE of Denham Springs, Livingston Parish, Louisiana, is here selected as NEOTYPE for *Athanasia paniculata* Walt., the basis for *Verbesina walteri* Shinnery.

WALTER'S NAME: *Frasera caroliniensis* Walter (p. 88)

MODERN NAME: **Swertia caroliniensis** (Walt.) Kuntze

Very rare (3 counties in SC.: Abbeville, Greenwood, Laurens, all on piedmont); undoubtedly a Fraser discovery. A supposed specimen (48-B), labeled "*Frasera Caroliniensis*" by Fraser, has since been identified as *Dodecatheon meadia* (Britten 1921: 70). *Horn 6581*, 8 May 1993 - USCH, from Sumter National Forest, ca. 11 mi. NE of Clinton, Laurens County, South Carolina, is here selected as NEOTYPE for *Frasera caroliniensis* Walt., basionym of *Swertia caroliniensis* (Walt.) Kuntze.

WALTER'S NAME: *Hydrolea quadrivalvis* Walter (p. 110)

MODERN NAME: **Hydrolea quadrivalvis** Walt.

Frequent in eastern SC. No specimen has been identified. *Horn 4246*, 30 July 1990 - USCH, from just N of Laurel Hill Plantation, 2 mi. SE of Goose Creek, Berkeley County, South Carolina, is here selected as NEOTYPE for *Hydrolea quadrivalvis* Walt.

WALTER'S NAME: *Hypericum tubulosum* Walter (p. 191)

MODERN NAME: **Triadenum tubulosum** (Walt.) Gleason

Very rare in SC (2 counties, both inland from Walter's Berkeley Co.); rare in central GA; not known in NC. But Walter's description seems unambiguous, clearly contrasted with *T. virginicum* and *T. walteri*. This probably is a Fraser discovery, perhaps obtained on his trip to the Flint River, west-central GA, in spring of 1787. There is no specimen. *Allison 10271*, 16 Oct 1997 - DUKE, from NE corner of Ft. Benning Military Reservation, 17.5 mi. NE of Cusseta, Chattahoochee County, Georgia, is here selected as NEOTYPE of *Hypericum tubulosum* Walt., basionym of *Triadenum tubulosum* (Walt.) Gleason.

WALTER'S NAME: *Iris hexagona* Walter (p. 66)

MODERN NAME: **Iris hexagona** Walt.

Very rare in SC (known only in Charleston Co.). There is no specimen. *Hutto s.n.*, 4 June 1993 - USCH, from branch of Wambah Creek, Hampton Plantation State Park, Charleston County, South Carolina, is here selected as NEOTYPE for *Iris hexagona* Walt.

WALTER'S NAME: *Laurus melissaefolia* Walter (p. 134)

MODERN NAME: **Lindera melissifolia** (Walt.) Bloom

Rare; in SC known only in 3 counties (Berkeley, Colleton, Darlington). Spm. 63-C was named "*Laurus melissaefolium*" by Walter and later annotated "*Benzoin melissaefolium*" by A. J. Kosterman. Its leaves are smaller than other specimens of that species. Spm. 63-H is similar, but was annotated by Kosterman as "*Benzoin odoriferum*," a synonym of *L. benzoin* (L.) Blume, which it could well be. An independent specimen of certain identity, *Williamson 1550*, 23 July 1961 - USCH, from 1 mi. NE of Honey Hill, Darlington County, South Carolina, is here selected as NEOTYPE for *Laurus melissaefolia* Walt., basionym of *Lindera melissifolia* (Walt.) Bloom.

WALTER'S NAME: *Melanthium hybridum* Walter (p. 125)

MODERN NAME: **Melanthium hybridum** Walt. [= *Veratrum latifolium* (Desr.) Zomlefer]

Rare in SC, frequent in western NC; likely a Fraser discovery. No specimen has been identified. *Nelson 8431*, 12 Sept 1989 (2 sheets) - USCH (annot. D. E. Kennemore), from W of Marietta, Greenville County, South Carolina, is here selected as NEOTYPE for *Melanthium hybridum* Walt.

WALTER'S NAME: *Melanthium racemosum* ? Walter (p. 126)

MODERN NAME: **Tofieldia racemosa** (Walt.) BSP.

Frequent in eastern SC. Walter was the first to form the combination *Melanthium racemosum*. [Others: *M. racemosum* Michx., 1803 (= *M. virginicum*), and *M. racemosum* Roth, 1821 (= *Iphigenia indica*).] His expression of doubt does not invalidate his name (Art. 34.1). No specimen has been identified. *Pittman & Darr s.n.*, 1 July 1999 - USCH, from Shirley tract, Lynchburg-Savanna area, near SC 327, Lee County, South Carolina, is here selected as NEOTYPE for *Melanthium racemosum* Walt., basionym of *Tofieldia racemosa* (Walt.) BSP.

WALTER'S NAME: *Ophioglossum crotalophoroides* Walter (p. 256)

MODERN NAME: **Ophioglossum crotalophoroides** Walt.

Very rare in SC (two counties, one of which is Berkeley). There is no specimen. *Douglas s.n.*, 12 March 1991 - USCH, from along Simons Road, 1/2 mi. SW of SC 68, just W of Yemassee, Hampton County, South Carolina, is here selected as NEOTYPE for *Ophioglossum crotalophoroides* Walt.

WALTER'S NAME: *Pharnaceum maritimum* Walter (p. 117)

MODERN NAME: **Sesuvium maritimum** (Walt.) BSP.

Infrequent along SC shore. No specimen. Nelson 5850, 28 July 1987 - USCH, from South Island, Yawkey Wildlife Center, Georgetown County, South Carolina, is here selected as NEOTYPE for *Pharnaceum maritimum* Walt., basionym of *Sesuvium maritimum* (Walt.) BSP.

WALTER'S NAME: *Rajania ovata* Walter (p. 247)

MODERN NAME: **Brunnichia ovata** (Walt.) Shinnery [= *Brunnichia cirrhosa* Banks ex Gaert.]

Rare in the Carolinas, but known from three coastal SC counties (Charleston, Georgetown, Jasper). Shinnery (1967) accepted Walter's description as applying to the plant also known as *Brunnichia cirrhosa*. Spm. 91-A, marked by Walter as "*Rajania (monoica)*" and noted by Fraser to be the "ovata" of the *Flora*, is a worthless scrap. Aulbach-Smith 3144, 15 July 1984 - USCH, from near Forks Lake Bluff, ca. 5 mi. NW of Hardeeville, Jasper County, South Carolina is here selected as NEOTYPE for *Rajania ovata* Walt., basionym of *Brunnichia ovata* (Walt.) Shinnery.

WALTER'S NAME: *Silphium scabrum* Walter (p. 217)

MODERN NAME: **Silphium scabrum** Walt. [= *Silphium dentatum* Ell.]

Common throughout. *Silphium asteriscus* L. is a more scabrous plant, but is essentially absent from SC. Guy Nesom (pers. comm., Aug 2007) has identified Walter's name as *S. dentatum*. Spm. 98-C was labeled "*Silphium*" by Walter and "*Scabrum*" by Fraser; it is a fragment without meaningful characters. Nelson 5571, 9 June 1987 (2 sheets) - USCH (annot. J. A. Clevinger 1999), from West Springs, Union County, South Carolina, is here selected as NEOTYPE for *Silphium scabrum* Walt.

WALTER'S NAME: *Sophora lanceolata* Walter (p. 135)

MODERN NAME: **Baptisia lanceolata** (Walt.) Ell.

Rare in SC sandhills; perhaps a Fraser discovery. There is no specimen. Stanford 16, 4 April 1993 - USCH, from Compartment 84, Savannah River site, Barnwell County, South Carolina, is here selected as NEOTYPE for *Sophora lanceolata* Walt., basionym of *Baptisia lanceolata* (Walt.) Ell.

WALTER'S NAME: *Thymbra caroliniana* Walter (p. 162)

MODERN NAME: **Macbridea caroliniana** (Walt.) Blake

Infrequent in eastern SC. Blake (1915: 132) noted Walter's description to be "definitive." No specimen has been identified. Horn 2362, 28 Aug 1987 - USCH, from Shaws Creek, 4 mi. N of Aiken, Aiken County, South Carolina, is here selected as NEOTYPE for *Thymbra caroliniana* Walt., basionym of *Macbridea caroliniana* (Walt.) Blake.

WALTER'S NAME: *Utricularia fibrosa* Walter (p. 64)

MODERN NAME: **Utricularia fibrosa** Walt. [= *Utricularia striata* LeConte ex Torr.]

Rare on SC coastal plain, frequent in piedmont. There is no specimen. *Utricularia fibrosa* Walt. was left in limbo by Taylor (1989: 586) who determined Walter's plant was either *U. biflora* Lam. (1791) or *U. striata* LeConte ex Torr. (1819), but then rejected both. Nelson 12474, 18 May 1992 - USCH, from Training Area 25D, Fort Jackson, Richland County, South Carolina, a plant identifiable also as *U. striata*, is here selected as NEOTYPE for *Utricularia fibrosa* Walt.

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